OPERATING AND INSTALLATION INSTRUCTIONS

for

OLYMPIC MODEL TV-922
TELEVISION RECEIVER

This receiver is designed to operate on 115 volts A-C, 60-cycle power. If plugged into an incorrect power supply, damage to the receiver may result. If in doubt about your power supply, call your power company.

HIGH VOLTAGE:

Operation of this receiver outside the cabinet or with the covers removed involves a shock hazard from the receiver power supplies. Work on the receiver should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Do not operate the receiver with the high voltage compartment shield removed.

WARNING: Picture Tube Handling Precautions

Do not open any picture tube shipping carton, install, remove or handle the picture tube in any manner, unless heavy gloves and shatter-proof goggles are worn. Keep the picture tube away from the body when handling it. The picture tube envelope encloses a high vacuum and due to its large surface area, is subjected to considerable air pressure. For these reasons, the picture tube must be handled with more care than ordinary receiving tubes. The large end of the tube, particularly the rim of the viewing surface must not be struck, scratched or subjected to more than moderate pressure at any time. In installation, if the tube sticks or fails to glide smoothly through the focus coil and deflection yoke, investigate and remove the cause of the trouble. DO NOT FORCE THE TUBE.

DESCRIPTION OF SET:

Olympic Model TV-922 is a 22 tube (including picture and rectifier tubes) television receiver. For best reception, an outside aerial is required. Where an outside aerial cannot be installed, it may still be possible to obtain satisfactory reception with a window type or inside aerial. Consult your dealer about the installation of a suitable aerial. The principal controls are brought out in front of the cabinet and can be adjusted by the user. Auxiliary controls are mounted on the rear of the chassis, but no adjustment of these controls should be needed once the receiver and antenna are properly installed—and no adjustment should be attempted by anyone not familiar with the function of television circuits. The service and function instructions in this folder are solely for the use of the service-man, explaining in detail the use of these controls. The operating controls are manipulated from the front of the cabinet and three of the four sets of knobs are dual controls i.e. there are two knobs—one outer knob designated by O and one inner knob designated by + on each shaft. The controls serve the following functions:

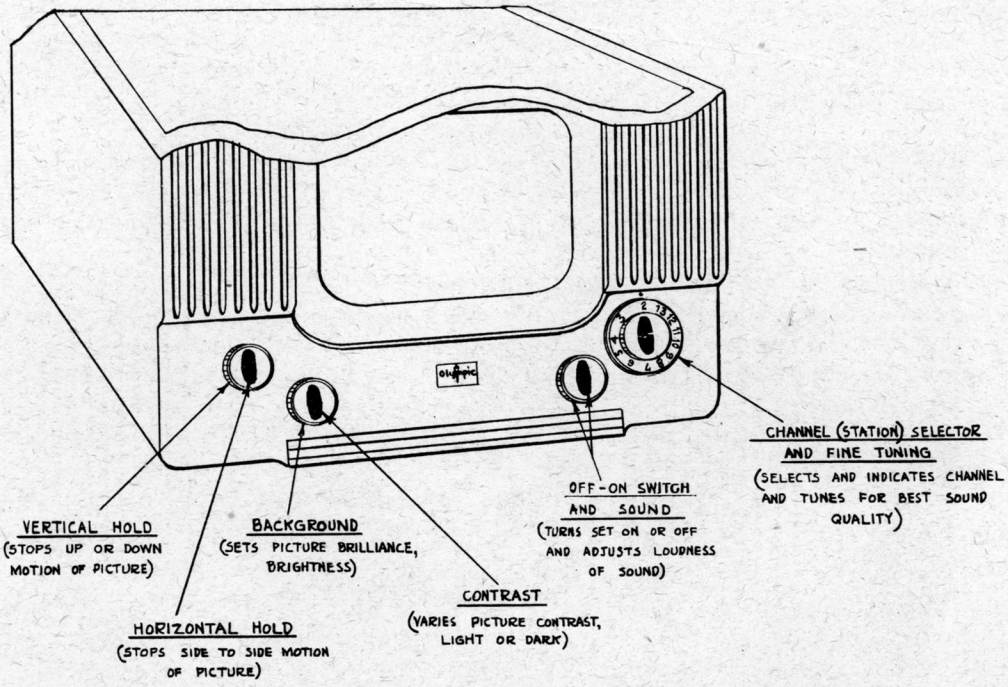

FIG. 1

HOW TO OPERATE RECEIVER:

The first time the receiver is used, the following adjustments are neces ary:

1. Turn the set ON (3rd knob from the left clockwise) and advance this knob to approximately mid position—wait one minute for all tubes to warm up.
2. Set channel selector knob (outer knob on extreme right) to channel number desired.
3. Turn contrast control fully counter-clockwise.
4. Turn the background control fully counter-clockwise then clockwise until a faint glow just appears on the screen.
5. Turn contrast control slowly clockwise until a definite pattern or motion appears on the screen.
6. If the station selected is on the air, a sound signal will be heard. Adjust the sound volume control for low volume and the fine tuning control (inner knob extreme right) for best sound fidelity. Now adjust the sound control for suitable volume.
7. Adjust the vertical hold control until the vertical movement of the pattern stops.
8. Adjust the horizontal hold control until the horizontal movement stops and picture is centered.
   NOTE: If any difficulty is experienced with these last two steps, turn the contrast control slightly (1/4 turn) counter-clockwise and repeat steps 7 & 8.
9. Adjust the contrast control for most pleasing contrast and background control for most pleasing brightness.
10. After receiver has been on for some time, it may be necessary to readjust the fine tuning control slightly for best sound fidelity.
11. In switching from one station to another, it may be necessary to repeat steps 6 & 9.
12. When the set is turned ON again after an idle period, it should not be necessary to repeat the adjustments if the positions of the controls have not been changed. However, if any adjustment is necessary, step #6 is usually sufficient.
13. If the position of the controls has been changed, it may be necessary to repeat all the steps.

Receiver Handling Precautions:

The TV-922 receiver should always be picked up from under the bottom of the cabinet, since lifting by the top would tend to pull the cabinet apart. The receiver is shipped with all the tubes in their sockets. Whenever the 10BP4 kinescope is shipped separately, it is enclosed in a special carton and *should not be unpacked until ready for installation and only with the precautions described previously.*

INSTALLATION INSTRUCTIONS FOR SERVICEMEN

How to Install Kinescope Tube:

CAUTION: Line cord must be disconnected from power outlet.

1. Remove chassis from cabinet.
2. Remove front mask by unfastening the two screws holding the mask to the chassis. (Two wooden spacers are used to locate the mask at the proper distance from the picture tube and must be used when replacing mask.)
3. Bring the flexible webbing forward and down below the chassis line. This strap is used to secure kinescope tube to chassis assembly.
4. Be sure deflection yoke and focus coil assemblies are "In Line" to permit free passage of the tube neck and slide kinescope tube in. Rest front edge of tube on channel rubber support. *In handling kinescope use customary precautions.*
5. Rotate the tube so that second anode contact (a recessed metal well) is on top. Slide flexible webbing strap over tube to secure in place.
6. Replace spacers and mask with two screws.
7. Insert second anode connection into tube well. The second anode connector is a flexible metal clip covered by a rubber cap, which will be found emanating from the top of the high voltage power supply cage.
8. Slide Ion trap (beam bender) over the tube neck with the arrow facing focus coil (See Sketch).

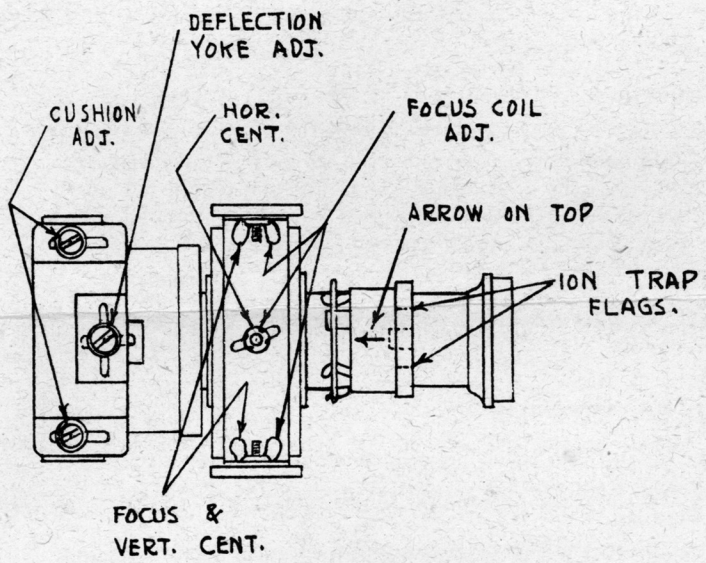

Fig. 2

9. Connect kinescope tube socket onto kinescope.
10. Insert line cord into the power outlet and turn volume control knob ON. Allow set to warm up. REMEMBER THAT THE SET IS OPERATING WITH HIGH VOLTAGES AND KEEP HANDS OFF HIGH VOLTAGE PARTS.

ADJUSTMENTS:

Ion Trap Magnet Adjustment:

Turn the background control fully clockwise and the picture control fully counter-clockwise. The Ion trap magnet should be placed over the tube neck as shown previously. Starting from this position, adjust the magnet by moving it forward or backward and at the same time rotating it slightly around the neck of the kinescope until the raster on the screen is brightest. Reduce the background control setting until the raster is slightly above average brilliance. Adjust focus control (rear of chassis) until the line structure of the raster is clearly visible (sharp). Readjust the Ion trap magnet again for maximum raster brilliance. The final touches on this adjustment should be made with the background control at the maximum position with which good line focus can be maintained.

Focus Coil Adjustment:

Turn the horizontal centering and vertical centering controls (rear of chassis) to mid position. Loosen the focus coil adjustment wing nuts and rotate the coil about its vertical and horizontal axes until the entire raster is visible on the screen, approximately centered and without shadows in the corners. With the coil in this position, tighten the focus coil adjustment wing nuts.

Deflection Yoke Adjustment:

If the lines of the raster are not horizontal or squared with the picture mask, loosen the deflection yoke adjustment screw and rotate the deflection yoke until this condition is obtained, and retighten the yoke adjustment screw.

Picture Adjustment:

It will now be necessary to obtain a test pattern in order to make further adjustments. SEE STEPS 2 to 13, as previously described.

Check of Horizontal Oscillator Alignment:

Turn the horizontal hold control to the extreme counter-clockwise position. The picture should remain in synchronization. Turn channel selector switch OFF and immediately back ON again. Normally, the picture will now be out of synchronization. Turn the control clockwise. The picture will slowly begin to synchronize, and will in one moment pull into synchronization. This should occur when the control is approximately 90 degrees from the extreme counter-clockwise position. It should now remain in synchronization for approximately 90 degrees additional clockwise rotation of the control. At the extreme clockwise position, the picture should again pull out of synchronization and should show from $3\frac{1}{2}$ to $4\frac{1}{2}$ bars sloping downward to the right.

If the receiver passes this test and the picture is normal and stable, the horizontal oscillator is properly adjusted. Skip the "alignment of horizontal oscillator" and proceed with "focus" adjustment.

Alignment of Horizontal Oscillator:

If in the above test, the receiver fails to hold synchronization with the hold control at the extreme counter-clockwise position or fails to hold synchronization for at least 60 degrees of clockwise rotation of the control from the point of "pull in" it will be necessary to make the following adjustments:

Horizontal Frequency Adjustment:

Turn horizontal hold control to the extreme clockwise position. Tune in a television station and adjust the "horizontal frequency" trimmer (rear of chassis) until the picture is out of synchronization and shows $3\frac{1}{2}$ to $4\frac{1}{2}$ bars sloping downward to the right. If the trimmer has insufficient range, set the trimmer to mid position (one turn from tight) and adjust the horizontal oscillator coil L 14 (consult circuit diagram) until this condition is obtained.

Horizontal Locking Range Adjustment:

Set the horizontal hold control to the extreme counter-clockwise position. Switch channel selector OFF channel and back.

Slowly turn the horizontal hold control clockwise and note the least number of diagonal bars obtained just before the picture pulls into synchronization. If more than $4\frac{1}{2}$ bars are present just before the picture pulls into synchronization, adjust the "horizontal lock" trimmer (rear of chassis) slightly clockwise. If less than $3\frac{1}{2}$ bars are present, adjust the trimmer slightly counter-clockwise. Turn the contrast control counter-clockwise and switch channel selector OFF channel and back again. Recheck the number of bars at the "pull in" point. Repeat this procedure until $3\frac{1}{2}$ to $4\frac{1}{2}$ bars are present.

Repeat the adjustments of the horizontal frequency adjustment and horizontal locking range adjustment until the conditions specified above are fulfilled. When the horizontal hold operates as outlined in "Check of Horizontal Oscillator Alignment" the oscillator is properly adjusted.

Height and Vertical Linearity Adjustments:

Adjust the height control on the rear of chassis until the picture fills the mask vertically. Adjust vertical linearity (rear of chassis) until the test pattern is symmetrical from top to bottom.

Adjustment of one control will require readjustment of the other. Then adjust vertical centering control to align the picture with the mask.

Width, Drive and Horizontal Linearity:

Turn the width control (accessible through a hole in the upper right hand corner on the rear wall of the high voltage compartment) to the maximum clockwise position. Adjust the trimmer "horizontal drive" (rear of chassis) to give the best degree of brightness and linearity. Adjust the horizontal linearity control (rear of chassis) for best linearity of the right half of the picture. Readjust the width control until the picture just fills the mask and adjust horizontal centering again (rear of chassis) to align the picture with the mask.

Focus:

Adjust the focus control (rear of chassis) for maximum definition of the vertical wedge and the test pattern.

CHECK TO SEE THAT YOKE AND FOCUS COIL THUMB SCREWS ARE TIGHT. CHECK THAT ALL TUBES ARE FIRMLY IN THEIR SOCKETS AND REPLACE CHASSIS IN ITS CABINET.

OLYMPIC RADIO & TELEVISION INC.

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